I CLAIM:

1. A drainage system, which comprises:

(a) a stack having an inlet and an outlet;

(b) a branch pipe connected to the stack at a point spaced between the inlet and the outlet of the stack having a drain opening with a vent opening spaced between the stack and the drain opening; and

(c) a relief vent connected to the branch pipe at the vent opening in fluid communication with the branch pipe wherein when gas enters the inlet of the stack and create positive pressure in the branch pipe, the relief vent opens to allow gas in the branch pipe to escape so as to equalize pressure in the drainage system.

2. The drainage system of Claim 1 wherein the relief vent has an inlet and an outlet with a flexible valve member spaced therebetween, wherein when positive pressure exists in the branch pipe adjacent the inlet of the relief vent, the valve member moves to an open position to form a passageway between the inlet and the outlet.

3. The drainage system of Claim 2 wherein the valve member has a first end and a second end, wherein the relief vent is positioned so that the first end of the valve member is adjacent the vent opening of the branch pipe and wherein in a normal position, the second end of the valve member is closed.

4. The drainage system of Claim 2 wherein the valve member has a first end and a second end with a flexible sidewall extending therebetween forming an inner passageway, wherein the first end of the valve member is adjacent the vent opening of the branch pipe, wherein in a normal position, the inner passageway of the valve member tapers in cross-section from the first end toward the second end and the flexible sidewall adjacent the second end of the valve member is curled, wherein when gas is introduced into the inner passageway of the valve member at the first end, the flexible sidewall uncurls and the inner passageway of the valve member expands adjacent the second end such as to allow the gas to exit the valve member through the second end of the valve member and wherein the gas exiting the valve member reduces pressure in the branch pipe and prevents the fluid from exiting the branch pipe through the drain opening.

5. The drainage system of Claim 1 wherein a second branch pipe is connected to the stack at a point spaced between the inlet of the stack and the branch pipe and wherein the second branch pipe has a drain opening.

6. The drainage system of Claim 5 wherein the second branch pipe has a second vent opening spaced between the stack and the drain opening and wherein a second relief vent is connected to the second branch pipe at the second vent opening.

7. The drainage system of Claim 1 wherein the branch pipe has a second vent opening, wherein an air admittance valve is connected to the branch pipe at the second vent opening and wherein the air admittance valve opens in response to negative pressure in the branch pipe adjacent the air admittance valve so that fluid is able to enter the branch pipe through the air admittance valve to equalize pressure in the branch pipe.

8. The drainage system of Claim 1 wherein an air admittance valve is connected to the branch pipe at the vent opening and wherein the air admittance valve opens in response to negative pressure in the branch pipe to allow fluid to enter the branch pipe through the air admittance valve to equalize the pressure in the branch pipe.

9. The drainage system of Claim 1 wherein the stack has a height of at least 480 inches (12191 mm).

10. A drainage system, which comprises:

(a) a stack having an inlet and an outlet;

(b) a branch pipe in fluid communication with the stack and connected to the stack between the inlet and the outlet of the stack, the branch pipe having a drain opening;

(c) a relief vent in fluid communication with the branch pipe and connected to the branch pipe between the drain opening and the stack and configured to open in response to positive pressure in the branch pipe to equalize pressure in the branch pipe; and

(d) an air admittance valve in fluid communication with the branch pipe and connected to the branch pipe between the drain opening and the stack and configured to open in response to negative pressure in the branch pipe to equalize pressure in the branch pipe.

11. The drainage system of Claim 10 wherein the relief vent and the air admittance valve are connected to the drain pipe at a common point.

12. The drainage system of Claim 10 wherein the air admittance valve is connected to a first opening of the branch pipe, wherein the relief vent is connected to a second opening of the branch pipe and wherein the first opening is spaced apart from the second opening.

13. The drainage system of Claim 10 wherein the relief vent has an inlet and an outlet with a flexible vent member spaced therebetween, wherein when positive pressure exists in the branch pipe adjacent the inlet of the relief vent, the flexible member moves to an open position to form a passageway between the inlet and the outlet.

14. The drainage system of Claim 13 wherein the flexible member has a first end and a second end, wherein the relief vent is positioned so that the first end of the flexible vent member is adjacent the branch pipe and wherein in a normal position, the second end of the flexible vent member is closed.

15. The drainage system of Claim 13 wherein the flexible member has a first end and a second end with a flexible sidewall extending therebetween forming an inner passageway, wherein the first end of the flexible vent member is adjacent the branch pipe, wherein in a normal position, the inner passageway of the flexible vent member tapers in cross-section from the first end toward the second end and the flexible sidewall adjacent the second end of the flexible vent member is curled, wherein when gas is introduced into the inner passageway of the flexible member at the first end, the flexible sidewall uncurls and the inner passageway of the flexible vent member expands adjacent the second end such as to allow the gas to exit the flexible vent member through the second end of the flexible vent member and wherein the gas exiting the flexible vent member reduces the pressure in the branch pipe and prevents fluid from exiting the branch pipe through the drain opening.

16. The drainage system of Claim 10 wherein a second branch pipe is connected to the stack at a point spaced between the inlet of the stack and the branch pipe and wherein the second branch pipe has a drain opening.

17. The drainage system of Claim 16 wherein a second relief vent is connected to the second branch pipe between the drain opening and the stack.

18. The drainage system of Claim 10 wherein the stack has a height of at least 480 inches (12192 mm).

19. A method for equalizing pressure in a drainage system, the drainage system having a stack having an inlet and an outlet with a branch pipe in fluid communication with the stack connected to the stack between the inlet and the outlet, the branch pipe having a drain opening, the method which comprises the steps of:

(a) providing a relief vent connected to the branch pipe at a point spaced between the stack and the drain opening;

(b) providing fluid into the inlet of the stack so that the fluid moves past the branch pipe and moves into the branch pipe;

(c) opening the relief vent in response to positive pressure in the branch pipe adjacent the relief vent; and

(d) evacuating gas in the branch pipe through the relief vent until pressure in the pipe valve is equalized.

20. The method of Claim 19 wherein further in step (d), after pressure in the branch pipe is equalized, the relief vent closes.

21. The method of Claim 19 wherein the stack adjacent the outlet has a bend, wherein in step (b), the bend prevents gas in the stack from moving out of the outlet of the stack and wherein the gas trapped in the stack moves to the branch pipe and in step (d), the trapped gas is exhausted through the relief vent.

22. The method of Claim 19 wherein the relief vent has an inlet and an outlet with a flexible vent member spaced therebetween and forming a passageway, wherein the flexible member has a flexible sidewall, wherein in a normal position, the flexible sidewall adjacent the outlet of the relief vent is curled toward the inlet of the relief vent and wherein in step (c), when pressure in the branch pipe reaches a certain level, the sidewall uncurls and the passageway opens to allow the gas in the branch pipe to escape to equalize the pressure in the branch pipe.

23. The method of Claim 19 wherein in step (b), the liquid is provided into the stack by a high velocity pump, wherein a speed of the liquid moving through the stack traps gas along a length of the stack, wherein the trapped gas moves into the branch pipe and wherein in step (d), the trapped gas escapes through the relief vent.

24. The method of Claim 19 wherein an air admittance valve is provided in the branch pipe and wherein in step (b), as liquid moves down the stack past the branch pipe, a velocity of the liquid determines if positive or negative pressure is produced in the branch pipe, wherein if positive pressure is created in step (b), the gas trapped in the branch pipe opens the relief vent to allow the trapped gas to escape and wherein if negative pressure is created in step (b), the negative pressure opens the air admittance valve and enables air to enter the branch pipe to equalize the pressure.